

WHAT IS CLAIMED IS:

1. A liquid crystal display (LCD) comprising:
a backlight source;
an electro-optical light shutter (EOLS) including a plurality of regions arranged in a pattern, and during a frame time controlling light from the backlight source to pass the regions in a display time that allows the LCD to display an image; and
an LCD panel disposed to sandwich the EOLS with the backlight source receiving the light passing through the EOLS to display the image.
2. The display of claim 1, the EOLS controlling the light from the backlight source to pass each of the regions in sequence.
3. The display of claim 1, the EOLS controlling the light from the backlight source to pass each of the regions at a same time.
4. The display of claim 1, the EOLS further comprising:
a first substrate;
a first electrode layer on the first substrate further comprising a plurality of transparent electrodes formed in parallel to each other;
a second substrate opposing the first substrate;
a second electrode layer on the second substrate; and
a liquid crystal (LC) layer between the first and second electrode layers.

5. The display of claim 4, the first and second electrode layers further comprising indium tin oxide.

6. The display of claim 4, the LC layer further comprising ferroelectric LC.

7. The display of claim 4, the EOLS further comprising a polarizer on which the first substrate is disposed.

8. The display of claim 4, the EOLS further comprising:
a first polarizer on which the first substrate is disposed; and
a second polarizer on which the second substrate is disposed.

9. A liquid crystal display (LCD) comprising:
a first polarizer;
a first substrate on the first polarizer;
a first electrode layer on the first substrate further comprising a plurality of transparent electrodes formed in parallel to each other;
a second substrate opposing the first substrate;
a second electrode layer on the second substrate;
a first liquid crystal (LC) layer between the first and second electrode layers;
a second polarizer on the second substrate;
a third substrate over the second polarizer;
a second LC layer between the second polarizer and the third substrate; and

a third polarizer on the third substrate.

10. The display of claim 9, the first and second electrode layers further comprising indium tin oxide.

11. The display of claim 9, the third substrate further comprising a color-filter-on-array (COA) substrate.

12. A liquid crystal display (LCD) comprising:

a first polarizer;

a first substrate on the first polarizer;

a first electrode layer on the first substrate further comprising a plurality of transparent electrodes formed in parallel to each other;

a second substrate opposing the first substrate;

a second electrode layer on the second substrate;

a first liquid crystal (LC) layer between the first and second electrode layers;

a second polarizer between the first LC layer and the second electrode layer;

a third substrate over the second substrate;

a second LC layer between the second and third substrates; and

a third polarizer on the third substrate.

13. The display of claim 12, the first substrate further comprising plastics.

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14. The display of claim 12, the first and second electrode layers further comprising indium tin oxide.

15. The display of claim 12, the third substrate further comprising a color-filter-on-array (COA) substrate.

17. A method of operating a liquid crystal display (LCD) comprising:
providing a backlight source;
emitting light from the backlight source;
providing an electro-optical light shutter (EOLS) including a first substrate, a first electrode layer on the first substrate further comprising a plurality of transparent electrodes formed in parallel to each other, a second substrate opposing the first substrate, a second electrode layer on the second substrate, and a liquid crystal (LC) layer between the first and second electrode layers; and
selectively biasing the transparent electrodes to selectively allow the light from the backlight source to pass the EOLS during a frame time.

18. The method of claim 17 further comprising sequentially biasing the transparent electrodes.

19. The method of claim 17 further comprising biasing the transparent electrodes at a same time.

20. The method of claim 17 further comprising forming the first and second electrode layers with indium tin oxide.

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